

ABSTRACT

The present invention provides multi-band ultra-wide band (UWB) communication methods and systems capable of adaptively and scalably supporting different applications with different requirements, as well as different desired or ideal properties relating to the communications. A method is provided for transmitting information using multi-band ultra-wide band transmission, including transmitting a signal over each of multiple frequency sub-bands, and allowing variation of at least one transmission parameter to facilitate trade-off between at least two of power consumption, energy collection, bit rate, performance, range, resistance to multiple access interference, and resistance to multipath interference and spectral flatness.